

WHAT IS CLAIMED IS:

- 1 1. A diagnostic kit for assaying a cell presenting a
2 specific cell surface antigen, wherein said cell contains a
3 common cell surface antigen, comprising:
 - 4 (a) a first complex, comprising a magnetic bead coated
5 with a first ligand specific to the specific cell surface
6 antigen;
 - 7 (b) a second complex, comprising a second ligand
8 specific to the common cell surface antigen coupled with a
9 signal generation means; and
 - 10 (c) a magnetic support.
- 1 2. The diagnostic kit as claimed in claim 1, wherein
2 said first ligand is a monoclonal antibody.
- 1 3. The diagnostic kit as claimed in claim 1, wherein
2 said second ligand is a monoclonal antibody.
- 3 4. The diagnostic kit as claimed in claim 1, wherein
4 the diameter of said magnetic bead is about 1-5 microns.
- 1 5. The diagnostic kit as claimed in claim 1, wherein
2 the material of said magnetic bead is selected from the
3 group consisting of ferrite, perovskite and chromite.
- 1 6. The diagnostic kit as claimed in claim 1, wherein
2 said signal generation means is selected from the group
3 consisting of radioactive material, fluorescent material,
4 luminescent material and enzymes.

1 7. The diagnostic kit as claimed in claim 6, wherein
2 said enzyme is selected from the group consisting of
3 horseradish peroxidase, hydrogen peroxidase, alkaline
4 phosphatase, β -galactosidase and glucose oxidase.

1 8. The diagnostic kit as claimed in claim 7, further
2 comprising a substrate operatively reacted with said enzyme
3 to generate a signal.

1 9. The diagnostic kit as claimed in claim 1, wherein
2 said magnetic support is a magnetic material, which provides
3 magnetic field.

1 10. A method of assaying a cell presenting a specific
2 cell surface antigen, wherein said cell contains a common
3 cell surface antigen, comprising the steps of:

4 (a) providing a sample containing said cell;

5 (b) providing a first complex, comprising a magnetic
6 bead coated with a first ligand specific to the specific
7 cell surface antigen;

8 (c) providing a second complex, comprising a second
9 ligand specific to the common cell surface antigen coupled
10 with and a signal generation means;

11 (d) mixing said sample containing said cell with said
12 first complex and said second complex to form a third
13 complex;

14 (e) providing a magnetic support to immobilize said
15 third complex;

16 (f) separating said third complex from said sample in
17 the presence of said magnetic support; and

18 (g) generating a signal from said third complex.

1 11. The method as claimed in claim 10, wherein said
2 first ligand is a monoclonal antibody.

1 12. The method as claimed in claim 10, wherein said
2 second ligand is a monoclonal antibody.

1 13. The method as claimed in claim 10, wherein the
2 material of said magnetic bead is selected from the group
3 consisting of ferrite, perovskite and chromite.

1 14. The method as claimed in claim 10, wherein the
2 diameter of said magnetic bead is about 1-5 microns.

1 15. The method as claimed in claim 10, wherein said
2 signal generation means is selected from the group
3 consisting of radioactive material, fluorescent material,
4 luminescent material and enzymes.

1 16. The method as claimed in claim 15, wherein said
2 enzyme is selected from the group consisting of horseradish
3 peroxidase, hydrogen peroxidase, alkaline phosphatase, β -
4 galactosidase and glucose oxidase.

1 17. The method as claimed in claim 10, wherein the
2 signal in step (g) is generated by reacting said enzyme with
3 a substrate.

1 18. The method as claimed in claim 10, further
2 comprising the steps of washing said sample with a buffer
3 and then removing the buffer in step (f).

1 19. The method as claimed in claim 10, wherein said
2 magnetic support is a magnetic material, which provides
3 magnetic field.

1 20. The method as claimed in claim 10, wherein said
2 cell is human leukocyte.

1 21. The method as claimed in claim 20, wherein the
2 specific cell surface antigen is human leukocyte antigen B27.

1 22. The method as claimed in claim 21, wherein the
2 common cell surface antigen is human leukocyte antigen CD45.